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PATENT ABSTRACTS OF JAPAN

(11)Publication number : **2003-268354**

(43)Date of publication of
application : **25.09.2003**

(51)Int.Cl.

C09K 3/14
B24B 37/00
C03B 20/00
H01L 21/304

(21)Application
number : **2002-076392**

(71)
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(22)Date of filing : **19.03.2002**

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(54) METHOD FOR MANUFACTURING AQUEOUS DISPERSION OF FUMED SILICA

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a method for manufacturing aqueous dispersion of fumed silica which causes less flocculation of silica particles even when continuously energized than a conventional aqueous based dispersion of the fumed silica.

SOLUTION: The fumed silica is added into a liquid having a pH of about 2 to 11 under a shear force to form intermediate aqueous dispersion having a silica concentration of about 20-60 wt.%. The intermediate aqueous dispersion is added into a basic liquid to give a silica concentration of about 1 to 50 wt.% and a pH of about 8 to 12. In the manufacturing method, the fumed silica diffuses little by little into the basic liquid during addition of the silica dispersion thereby causing the silica concentration in the basic liquid (functioning as a receiving parent material) to gradually rise from zero, and therefore the silica particles in the intermediate aqueous dispersion incorporated are quickly moved to an alkaline region where they are provided with a high zeta potential to be in a stable dispersed state thereby attaining enhanced stability against flocculation of the dispersion.